Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection
Western Regional Office • 436 Dwight Street, Springfield MA 01103 • 413-784-1100

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January 13, 2012

Mr. Thomas Hathaway
Hathaway Construction Corp.
119 North Road
Westhampton, Massachusetts 01027

Re: PVAPCD – Westhampton
Regulation 310 CMR 7.02(5)
**Appl. # 1-P-10-042; Trans. # X235443**
**Crushed Stone Processing Plant**

## Final Approval

Dear Mr. Hathaway:

The Massachusetts Department of Environmental Protection, Western Regional Office ("MassDEP") received on December 7, 2010 a non-major comprehensive plan application from Hathaway Construction Corporation ("Hathaway") for an existing crushed stone processing plant located at 119 North Road in Westhampton, Massachusetts.

In November 2010, Hathaway disclosed to MassDEP that they had installed and operated a stone crushing/processing plant utilizing a diesel engine/generator without obtaining MassDEP plan approval. Subsequently on September 20, 2011 Hathaway entered into an Administrative Consent Order with MassDEP to remedy this violation. A requirement of the ACO is to obtain written plan approval from MassDEP for the existing facility. This Final Approval is being issued as part of the resolution of the ACO. The application bears the seal and signature of Mr. John W. Lavin, Massachusetts Registered Professional Engineer No. 40234.

### I. Existing Facility

Hathaway owns and operates a quarry and crushed stone processing plant consisting of various rock crushers, screens, conveyors, and other ancillary controls and equipment. The facility material flow typically proceeds as follows:

Raw materials are transferred by heavy equipment from the quarry to the primary jaw crusher, which produces a maximum of 396 tons per hour of material.

From the primary crusher, the material is fed by conveyor to Screen #1. Material that passes over the screen is fed to the secondary cone crusher where it is further reduced in size. Material discharged from the secondary cone crusher loops around via conveyors to be screened again.

Material that passes through Screen #1 is transferred by conveyor to Screen #2. This screen separates the material into fine and coarse aggregate. The coarse aggregate is discharged into stockpiles by conveyors. The fine aggregate enters a material wash tub that removes the ultra-fine particles. The wash tub then deposits the fine aggregate into a stockpile.

Material in the stockpiles is loaded onto trucks via a front-end loader and trucked off-site or picked up by customers as the need arises.

- ***Emission Unit #1 – 2 crushers, 2 vibrating screens, & transfer conveyors***
  The stone crushing and processing plant consists of a primary jaw crusher, secondary cone crusher, two vibrating material separator screens, and a series of material transfer conveyors. The maximum processing rate of material through the plant is determined by the primary jaw crusher's maximum feed rate capacity of 396 tons per hour. The facility's crushing equipment is subject to 40 CFR Part 60, Subpart 000, "Standards of Performance for Nonmetallic Mineral Processing Plants".

  Emission Unit #1 consists of:
  - A Goodwin Barsby 42" x 30" jaw crusher (primary crusher)
  - An El-Jay RC54 cone crusher (secondary crusher)
  - An El-Jay triple deck horizontal vibrating screen (Screen #1)
  - A Trio triple deck incline vibrating screen (Screen #2)
  - An Ortner 4000 material washer

- ***Emission Unit #2 – Caterpillar Engine Model 3306***
  The primary jaw crusher is powered by a 2.66 MMBtu/hr Caterpillar model 3306 diesel engine manufactured in 1987. The maximum rated fuel consumption rate is 19 gallons per hour.

- ***Emission Unit #3 – Caterpillar Engine Model 3406***
  All other processing equipment is powered by a 3.64 MMBtu/hr Caterpillar model 3406 diesel generator set manufactured in 1998 and installed at the facility in 2004. The maximum rated fuel consumption rate is 26 gallons per hour.

## II. Potential Emissions

Emissions from the facility include fugitive dust from the stone crushing and processing plant, and combustion emissions from the two generators.

Emission factors used to determine total emissions were obtained from the US EPA publication "AP-42 Compilation of Air Pollutant Emission Factors." Chapter 11.19.2, "Crushed Stone Processing and Pulverized Mineral Processing," was used for Emission Unit #1, and Chapter 3.3, "Gasoline and Diesel Industrial Engines," was used for Emission Units #2 and #3.

Hathaway is proposing the following restrictions on operation for the facility:

**Table 1**

| Emission Unit | Design Capacity | Operating Limitations | | |
|---|---|---|---|---|
| | | Daily | Monthly | 12-Month Rolling Total |
| EU #1 – crushers, screens, washer | 396 ton / hr | 4,752 tons/day | 119,988 tons/month | 1,441,440 tons/year |
| EU #2 – Caterpillar Engine (2.66 MMBtu/hr) | 19 gallon / hr | 228 gallons/day | 5,757 gallons/month | 69,160 gallons/year |
| EU #3 – Caterpillar Engine (3.64 MMBtu/hr) | 26 gallon / hr | 312 gallons/day | 7,878 gallons/month | 96,640 gallons/year |
| Facility-Wide | – | Mon-Fri.; 12 hr/day and Saturday; 10 hr | 303 hr/month (calendar month) | 3640 hr/year (rolling 12 month total) |

These proposed restrictions would limit potential emissions from the facility as follows:

**Table 2**

| Emission Unit | Restricted Potential Emissions (tons per year) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | PM | $PM_{10}$ | NOx | CO | SOx | Aldehydes | VOCs | HAPs |
| EU #1 – crushers, screens, washer | 5.8 | 2.14 | | | | | | |
| EU #2 – Caterpillar Engine (2.66 MMBtu/hr) | 0.20 | | 7.80 | 1.73 | 1.40 | 0.34 | 1.74 | 0.0312 |
| EU #3 – Caterpillar Engine (3.64 MMBtu/hr) | 0.22 | | 12.86 | 1.92 | 1.92 | 0.46 | 2.38 | 0.0427 |
| Totals | 6.22 | 2.14 | 20.66 | 3.64 | 3.32 | 0.80 | 4.12 | 0.0739 |

## III. Best Available Control Technology (BACT)

BACT is being proposed for the facility as follows:

- Facility operation restricted to:
  Monday – Friday; 12 hours/day & Saturday; 10 hours, and
  303 hours/month, and
  3640 hours/year
- The use of spray nozzles at all crushers, screens and transfer points for fugitive particulate emission control, and
- Visible emission limits contained in 40 CFR Part 60, Subpart OOO for the primary crusher, and
- The use of ultra low sulfur diesel oil ("ULSD") in these engine generators.

MassDEP agrees with this assessment of BACT for these facility components.

## IV. Provisions of Approval

It is the opinion of the MassDEP that the construction, installation, and operation of the facility as proposed by Hathaway Construction Corp. is consistent with modern air pollution control technology and Best Available Control Technology. The MassDEP hereby issues approval for the modifications described herein and in the submittal pursuant to Regulation 310 CMR 7.02(5) of the "Regulations for the Control of Air Pollution in the Pioneer Valley Air Pollution Control District", subject to the following provisions:

1. *Please be advised that the facility's crushing equipment may be subject to the requirements of 40 CFR Part 60, Subpart OOO (New Source Performance Standards for Non-Metallic Mineral Processing Plants). Since MassDEP has not accepted delegation of this NSPS,* ***you are responsible for contacting EPA Region 1 in Boston, Massachusetts to obtain this determination and to determine if more stringent emission limits, monitoring, recordkeeping, and reporting requirements are applicable to the facility, and if any reports required by Subpart OOO must be submitted to the EPA Region 1 office.***

   ***You are also responsible for determining if more stringent compliance testing requirements are applicable to your facility, what test methods are to be used, and what compliance testing/reporting deadlines are applicable to your facility.***

## Facility Operating Restrictions

2. Hathaway shall ensure that the facility operates in compliance with the requirements specified in Table 3 and in Table 4:

**Table 3**

| Emission Unit | Design Capacity | Operating Limitations | | |
|---|---|---|---|---|
| | | Daily (1) | Monthly(2) | 12-Month Rolling Total (3) |
| EU #1 – crushers, screens, washer | 396 ton / hr | 4,752 tons/day | 119,988 tons/month | 1,441,440 tons/year |
| EU #2 – Caterpillar Engine (2.66 MMBtu/hr) | 19 gallon / hr | 228 gallons/day | 5,757 gallons/month | 69,160 gallons/year |
| EU #3 – Caterpillar Engine (3.64 MMBtu/hr) | 26 gallon / hr | 312 gallons/day | 7,878 gallons/month | 96,640 gallons/year |
| Facility-Wide | – | Mon-Fri.; 12 hr/day and Saturday; 10 hr (4) | 303 hr/month (calendar month) | 3640 hr/year (rolling 12 month total) |

(1) calendar day
(2) calendar month
(3) Based on a rolling 12-month total. Compliance with a rolling 12-month total is determined each month by adding the previous 12 months worth of material processed or fuel used, and comparing that total with the restrictions listed.
(4) Mon. – Fri. 7 am to 7 pm; Sat. 7 am to 5 pm.

**Table 4**

| Emission Unit | Restricted Potential Emissions (tons per year) (1) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | PM | $PM_{10}$ | NOx | CO | SOx | Aldehydes | VOCs | HAPs |
| EU #1 – crushers, screens, washer | 5.8 | 2.14 | | | | | | |
| EU #2 – Caterpillar Engine (2.66 MMBtu/hr) | 0.20 | | 7.80 | 1.73 | 1.40 | 0.34 | 1.74 | 0.0312 |
| EU #3 – Caterpillar Engine (3.64 MMBtu/hr) | 0.22 | | 12.86 | 1.92 | 1.92 | 0.46 | 2.38 | 0.0427 |
| Totals | 6.22 | 2.14 | 20.66 | 3.64 | 3.32 | 0.80 | 4.12 | 0.0739 |

(1) Based on a rolling 12-month total. Compliance with a rolling 12-month total is determined each month by adding the previous 12 months worth of material processed or fuel used, and comparing that total with the restrictions listed.

Hathaway is subject to the requirements specified in Tables 5, 6, and 7, as follows:

| **Table 5** | |
|---|---|
| Emission Unit | |
| EU #1 | <u>Operational Requirements</u><br>3. Hathaway shall ensure that wet dust suppression spray nozzles are mounted at all crushers, screens and transfer points.<br><br>4. Hathaway shall ensure that the wet suppression nozzles are operated and maintained in accordance with the manufacturer's recommendations and standard operating and maintenance procedures.<br><br>5. Hathaway shall ensure that the wet dust suppression system is activated prior to startup of the primary and secondary crushers, screens and support equipment, and used continuously while the equipment is in operation.<br><br>6. Hathaway shall conduct, during daily startup of the plant operations, a visual inspection of each wet dust suppression system and note any deficiencies or malfunctions, and take immediate corrective actions.<br><br><u>Emission Limits</u><br>7. Hathaway shall not cause to be discharged into the atmosphere from any non-metallic mineral crushing operation fugitive emissions which exhibit greater than 12 percent opacity at any time, as measured by EPA Method 9.<br><br>8. Hathaway shall not cause to be discharged into the atmosphere from any non-metallic mineral screening operation, conveyer/transfer operation, bagging operation, storage bin, and/or enclosed truck loading station fugitive emissions which exhibit greater than 7 percent opacity at any time, as measured by EPA Method 9.<br><br><u>Testing Requirements</u><br>9. Hathaway shall comply with all applicable test procedures and compliance test requirements for opacity and/or fugitive emissions as specified in 40 CFR Part 60; Subpart OOO.<br><br>10. In determining compliance with the 12 percent opacity standard, Hathaway shall use Method 9, with the following additions:<br>a. The minimum distance between the observer and the jaw crusher shall be 15 feet.<br>b. The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun must be followed.<br>c. Any water mist is not to be considered a visible emission.<br><br>11. When determining compliance with the fugitive emissions standard for the jaw crusher, the duration of the Method 9 observations may be reduced from 3 hours (thirty 6-minute averages) to 1 hour (ten 6-minute averages) only if the following conditions apply:<br>a. There are no individual readings greater than 12 percent opacity; and<br>b. There are no more than 3 readings of 12 percent for the 1-hour period. |

| Table 5 (continued) | |
|---|---|
| Emission Unit | |
| EU #1 | Monitoring Requirements<br>12. Hathaway must perform monthly periodic inspections to check that water is flowing to discharge spray nozzles in the wet suppression system. Hathaway must initiate corrective action within 24 hours and complete corrective action as expediently as practical if they find that water is not flowing properly during an inspection of the water spray nozzles.<br><br>13. Hathaway shall comply with any other applicable monitoring requirements specified in 40 CFR Part 60; Subpart OOO.<br><br>Recordkeeping Requirements<br>14. Hathaway must keep records of each monthly inspection of the water spray nozzles, including the date of each inspection and any corrective actions taken, in a logbook (in written or electronic format).<br><br>15. If Hathaway ceases operation of the water sprays or is using a control mechanism to reduce fugitive emissions other than water sprays during the monthly inspection (for example, water from recent rainfall), the logbook entry must specify the control mechanism being used instead of the water sprays.<br><br>16. Hathaway must keep the logbook onsite and make hard or electronic copies (whichever is requested) of the logbook available to MassDEP or the EPA upon request.<br><br>17. Hathaway shall keep production records on a daily, calendar month, and on a rolling 12-month total basis.<br><br>18. Hathaway shall comply with any other applicable recordkeeping requirements specified in 40 CFR Part 60; Subpart OOO. These reports shall be submitted to EPA Region 1 in accordance with the requirements of Subpart OOO.<br><br>Reporting Requirements<br>19. Hathaway shall comply with all applicable reporting requirements specified in 40 CFR Part 60; Subpart OOO.<br><br>20. See Facility-Wide Reporting Requirements in Table 7. |

| Table 6 | |
|---|---|
| Emission Unit | |
| EU #2<br>EU #3 | Operational Requirements<br>21. Hathaway shall ensure that only ultra low sulfur diesel oil, having a maximum sulfur content of 0.0015% by weight, is used to fuel all engine/generators.<br><br>22. Hathaway shall ensure that both Caterpillar engine stacks are configured to discharge the exhaust gases vertically upwards.<br><br>23. Hathaway shall ensure that both Caterpillar engine stack tops stand a minimum of 15 feet above ground level and do not have rain protection of a type that restricts the vertical flow of the exhaust gases into the ambient air. “Shanty caps”, “egg beaters” and the like are prohibited.<br><br>Testing Requirements<br>24. Hathaway, In accordance with 310 CMR 7.04(4)(a), shall ensure that the two Caterpillar oil fired engines are inspected and maintained in accordance with the manufacturer's recommendations and tested for efficient operation at least once in each calendar year. The results of said inspection, maintenance and testing and the date upon which it was performed shall be recorded and posted conspicuously on or near the permitted equipment.<br><br>Recordkeeping Requirements<br>25. Hathaway shall keep fuel use records on a daily, calendar month, and on a rolling 12-month total basis.<br><br>Reporting Requirements<br>26. Facility-Wide Reporting Requirements in Table 7. |

| **Table 7** | |
|---|---|
| Emission Unit | |
| Facility-Wide | <u>Operational Requirements</u><br>27. Hathaway shall ensure that non-paved roadways are wetted as necessary to minimize fugitive particulate emissions from vehicle traffic.<br><br>28. Hathaway shall apply loam and seed to various areas in the facility to provide vegetation for bare ground, at Hathaway's discretion.<br><br>29. Hathaway shall employ all best management practices to minimize fugitive particulate emissions from the handling of materials at the facility, including but not limited to wetting down the plant area on an as-needed basis.<br><br>30. Hathaway shall take whatever measures are necessary to minimize wind erosion of fines from the raw material stockpiles, including wetting of the piles.<br><br>31. Hathaway shall take immediate steps to abate any nuisance condition(s), including but not limited to visible emissions, dust, noise, and odor, that may be generated by the operation of the facility.<br><br>32. Hathaway shall ensure that only ultra low sulfur diesel oil, having a maximum sulfur content of 0.0015% by weight, is used to fuel all material moving equipment at the facility, such as front-end loaders, haul trucks, etc.<br><br><u>Testing Requirements</u><br>33. MassDEP may, in accordance with Regulation 310 CMR 7.13, require source emission testing ("stack testing") at any time. All emission testing shall be conducted in accordance with Regulation 310 CMR 7.13(a) - (d).<br><br><u>Recordkeeping Requirements</u><br>34. Hathaway shall keep hours of operation (facility-wide) records on a daily, calendar month, and on a rolling 12-month total basis.<br><br>35. Hathaway shall ensure that at a minimum of once per workday, a designated employee familiar with facility operations and air pollution matters relating to this Final Approval, performs a visible emission observation, in accordance with EPA Method 22, except that there is no required minimum time of observation (Method 22 Short Test) (1), of all areas of the facility (engines, process equipment, conveyor transfer points, raw / finished material stockpiles, unpaved roadways, etc.) with a potential to emit visible particulate emissions.<br><br>Hathaway shall establish and maintain a recordkeeping log (in written or electronic format) that, at a minimum, notes the date, time, area of the facility observed, and a statement of visible emissions or other conditions noted by the designated employee and any preventive/corrective actions taken.<br><br>36. Hathaway shall maintain records of routine maintenance activities on all facility equipment that could result in a change in air emissions, including, at a minimum, the type or a description of the maintenance performed and the date and time the work was completed.<br><br>37. Hathaway shall maintain records of all malfunctions of all equipment that could result in a change in air emissions, including, at a minimum: the date and time the malfunction occurred; a description of the malfunction and the corrective action taken; the date and time corrective actions were initiated; and the date and time corrective actions were completed and the facility returned to compliance.<br><br>38. Hathaway shall maintain all records up-to-date such that year-to-date information is readily available for MassDEP examination. Records shall be kept for at least five (5) calendar years. |

(1) The "Method 22 Short Test" is performed identically as a <u>Method 22 Visual Determination of Fugitive Emissions</u> except for the length of observation, for which no minimum time is specified. However, Hathaway must ensure that anyone performing a Method 22 Short Test must be familiar with the process and must observe the fugitive emission point long enough to be able to include in his/her observations any time-dependent process variations that may increase visible emissions.

| Table 7 (continued) | |
|---|---|
| Emission Unit | |
| Facility-Wide | <u>Reporting Requirements</u><br>39. Hathaway shall generate and maintain on-site discreet reports, one for each calendar month, which document compliance with production, fuel use and operating hour limits specified in Table 3.<br><br>The monthly reports shall also document any deviations from permit conditions, including those attributable to upset conditions, the probable cause of such deviations, and the corrective actions or preventative measures taken.<br><br>40. Hathaway shall notify the MassDEP in writing no later than the 15th day of the following month if any production, fuel use, operating hour, or emission limits are exceeded during the previous calendar month or rolling 12-month period.<br><br>41. Hathaway shall report to the MassDEP all instances of deviations [1] from permit requirements. The reporting shall be to MassDEP by telephone or fax occur within three (3) days of discovery (as specified below), or by documenting the deviation in the on-site monthly reports required herein.<br><br>42. Hathaway shall report to the MassDEP the following deviations from permit requirements, by telephone or fax, within three (3) days of discovery of such deviation:<br>• Unpermitted pollutant releases, excess emissions or opacity exceedances measured directly by EPA reference methods or by other credible evidence, which are ten percent (10%) or more above the emission limit.<br>• Exceedances of permit operational limitations directly correlated to excess emissions.<br>• Failure to perform QA/QC measures as required by this Final Approval or other approvals for instruments that directly monitor compliance.<br><br>For all other deviations, three (3) day notification is waived and is satisfied by the documentation required in the monthly reports generated in-house by Hathaway.<br><br>43. Hathaway shall report the resulting emissions from the facility approved herein on subsequent source registrations as required by 310 CMR 7.12.<br><br>44. All notifications and reporting required by this Final Approval shall be made to the attention of:<br>Permit Chief<br>Department of Environmental Protection<br>436 Dwight Street – 5th floor<br>Springfield, MA 01103 |

[1] Deviations are instances where any permit condition is violated and not reported as an emergency as described below. Reporting a permit deviation is not an affirmative defense for action brought for noncompliance.

An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation would require immediate corrective action to restore normal operation, and that causes the source to exceed a technology based limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operations, operator error or decision to keep operating despite knowledge of any of these things.

**General Conditions Of Approval**

45. Hathaway shall allow authorized MassDEP representatives immediate access to the facility in order to take samples, view the process operation or examine records to verify compliance.

46. This Final Approval may be suspended, modified, or revoked by MassDEP if, at anytime, MassDEP determines that any condition or part of this Final Approval is being violated. MassDEP shall be notified in writing prior to any modification of the facility such as a change in raw materials or an increase in production capacity that may increase emissions.

47. Hathaway shall not operate a facility constructed, substantially reconstructed, or altered pursuant to 310 CMR 7.02 except in conformance with the requirements established therein and in conformance with the specific written plan approval requirements.

48. Reporting – Any construction, substantial reconstruction or alteration, as described in 310 CMR 7.02, at a facility subject to the reporting requirements of 310 CMR 7.12, shall be reported to MassDEP on the next required source registration.

49. Hathaway shall ensure that noise from the facility during routine operation, including startups and shutdowns, shall not exceed MassDEP noise guidelines and shall not cause a condition of air pollution as defined in 310 CMR 7.01 and 7.10.

50. This Final Approval does not negate the responsibility of owner/ operator of the referenced facility to comply with this or any other applicable federal, state, or local regulations now or in the future. Nor does this Final Approval imply compliance with any other applicable federal, state or local regulation now or in the future.

This Final Approval consists of the application materials and this Final Approval letter. If conflicting information is found between these two documents, then the requirements of the Final Approval letter shall take precedence over the documentation in the application materials.

This Final Approval pertains only to the air quality control aspect of the proposal and does not negate the responsibility of the owners or operators to comply with other applicable state, local, or federal laws and regulations.

If you have any questions regarding this Final Approval, please do not hesitate to contact the undersigned at (413) 755-2115 or John Kirzec of the Western Regional Office at (413) 755-2225.

Sincerely,

**This final document copy is being provided to you electronically by the Department of Environmental Protection. A signed copy of this document is on file at the DEP office listed on the letterhead.**

_____
Marc Simpson
Permit Chief
Western Region

JK/jk
Hathaway NM 2012-01-13.doc

ecc: Yi Tian, MassDEP, Boston
Peter Czapienski, MassDEP, WERO

**Certified Mail: 7011 0470 0001 8408 1239**

## APPEAL OF APPROVAL

This Approval is an action of MassDEP. If you are aggrieved by this action, you may request an adjudicatory hearing. A request for a hearing must be made in writing and postmarked within twenty-one (21) days of the date of issuance of this Approval.

Under 310 CMR 1.01(6)(b), the request must state clearly and concisely the facts which are the grounds for the request, and the relief sought. Additionally, the request must state why the Approval is not consistent with applicable laws and regulations.

The hearing request along with a valid check payable to Commonwealth of Massachusetts in the amount of one hundred dollars ($100.00) must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211

The request will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below.

The filing fee is not required if the appellant is a city or town (or municipal agency) county, or district of the Commonwealth of Massachusetts, or a municipal housing authority.

MassDEP may waive the adjudicatory hearing filing fee for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request as provided above, an affidavit setting forth the facts believed to support the claim of undue financial hardship.